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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,512	10/31/2000	Vincent Magret	135,767	9985

24587 7590 01/30/2004

ALCATEL USA
INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER

BAYARD, DJENANE M

ART UNIT	PAPER NUMBER
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2141

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/702,512

Applicant(s)

MAGRET ET AL.

Examiner

Djenane M Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1,3-4, 7-9, 14-15, 23, 35, 37, 42-45 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,625,135 to Johnson et al.

a. As per claim 1, Johnson et al teaches a method of routing data to a mobile, comprising the steps of: sending an advertisement message from a foreign agent to a mobile node (See col. 5, lines 64-65); said mobile node receiving said advertisement message (See col. 6, lines 1-2); and sending a request from said mobile node to said foreign agent (See col. 6, lines 12-14).

b. As per claim 42, Johnson et al teaches A system to route data to a mobile, comprising: at least one mobile node having a request message (See col. 6, lines 12-13); and at least one foreign node having an advertisement message, whereby said foreign agent sends said advertisement message to said mobile node (See col. 5, lines 64-65) and said mobile node sends said request message to said foreign agent (See col. 6, lines 12-13).

- c. As per claims 3 and 43, Johnson et al appending an identifier to said advertisement message (See col. 6, lines 3-4) (The care-of address is an identifier).
- d. As per claims 4 and 45, Johnson et al teaches wherein said request is a registration request, whereby said mobile node has entered a new foreign domain (See col. 6, lines 12-14).
- e. As per claim 7, Johnson et al home agent intercepting packets sent to said mobile node from a correspondent node when said mobile node is visiting a foreign wireless domain (See col. 7, lines 16-18); said home agent tunneling said intercepted packets to said mobile node (See col. 6, lines 18-21); said foreign agent forwarding said packets to said mobile node (See col. 6, lines 58-59; and said mobile node detunneling said intercepted packets (See col. 5, lines 60-61).
- f. As per claim 8, Johnson et al teaches wherein said mobile node analyzes said identifier (See col. 6, lines 1-3).
- g. As per claims 9, Johnson et al teaches wherein said identifier is a network access identifier extension (See col. 4, lines 58-61).
- h. As per claims 14, Johnson et al teaches wherein the foreign agent is sending a registration reply to said mobile node (See col. 6, lines 12-13).
- i. As per claim 15, Johnson et al teaches wherein said foreign agent is relaying said registration request to a home agent (See col. 6, lines 12-13); and said home agent appending an address extension to a registration reply (See col. 5, lines 4-6).
- j. As per claim 23, Johnson et al teaches using a source care of address to tunnel said intercepted packets (See col. 6, lines 15-18).
- k. As per claim 35, Johnson et al teaches tunneling data in a communication system, comprising the steps of: a home agent intercepting packets sent to a mobile node from a

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correspondent node when said mobile node is visiting a foreign wireless domain (See col. 7, lines 16-18); said home agent tunneling said intercepted packets to said mobile node (See col. 6, lines 18-21); a foreign agent forwarding said packets to said mobile node (See col. 6, lines 58-59); and said mobile node detunneling said intercepted packets (See col. 5, lines 60-61).

l. As per claim 37, Johnson et al teaches the step of using a source care-of address to tunnel said intercepted packets (See col. 6, lines 15-18).

m. As per claim 44, Johnson et al teaches wherein said home agent comprises a registration reply (See col. Lines 9-24).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 5-6, 11-12, 16-17, 21-22, 24-27, 29-31, 36, 46, 48, 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 6,625,135 to Johnson et al in view of U.S. Patent No. 6,243,758 to Okanou.

a. As per claim 2, Johnson et al teaches the claimed invention as described above. However, Johnson et al fails to teach setting a bit in said advertisement message, whereby said foreign agent indicates it supports multicast extension.

Okanoue teaches an Internet multicast routing using flag bits indicating selective participation of mobile host in group activities within scope. Furthermore, Okanou teaches

setting a bit in said advertisement message, whereby said foreign agent indicates it supports multicast extension (See col. 5, lines 7-12).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate setting a bit in said advertisement message, whereby said foreign agent indicates it supports multicast extension as taught by Okanoué in the claimed invention of Johnson et al in order to indicate that transmission of the multicast packet beyond the scope is forbidden (See abstract, lines 4-5)

b. As per claim 5 and 46, Johnson et al teaches the claimed invention as described above. However, Johnson et al fails to teach wherein said request is a multicast request, whereby said mobile node is in said same foreign domain, but has moved to a new foreign agent.

Okanoué teaches said request is a multicast request, whereby said mobile node is in said same foreign domain, but has moved to a new foreign agent (See col. 4, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate said request is a multicast request, whereby said mobile node is in said same foreign domain, but has moved to a new foreign agent as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

c. As per claim 6, Johnson et al teaches sending a binding update from a home agent to a correspondent, whereby said correspondent is informed of a address of said mobile node; sending a binding acknowledgement from said correspondent to said home agent; and sending a source update from said home agent to said mobile node, whereby said mobile node is informed that said correspondent has received said binding update message with said multicast address (See col. 7, lines 1-21). However, Johnson et al fails to teach that the mobile node address is a multicast address.

Okanoué teaches wherein the mobile node address is a multicast address (See col. 4, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the mobile node address is a multicast address as taught by

Okanoue in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

d. As per claim 11, Johnson et al teaches the claimed invention as described above.

Furthermore, Johnson et al teaches mobile node requests service from a home agent.

However, Johnson et al fails to teach wherein mobile node setting a source specific multicast bit in said registration request.

Okanoue teaches wherein mobile node setting a source specific multicast bit in said registration request (See col. 4, lines 64-67).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein mobile node setting a source specific multicast bit in said registration request as taught by Okanoué in the claimed invention of Johnson et al in order to indicate that participation of outside mobile host in group activity is allowed (See col. 2, lines 25-26).

e. As per claim 12, Johnson et al teaches the claimed invention as described above.

However, Johnson et al fails to teach wherein mobile node setting a flag in said registration request, whereby said mobile node requests service from a home agent.

Okanoue et al teaches wherein mobile node setting a flag in said registration request, whereby said mobile node requests service from a home agent (See col. 2, lines 20-25).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein mobile node setting a flag in said registration request, whereby said mobile node requests service from a home agent as taught Okanoué et al in the claimed invention of Johnson et al in order to indicate that participation of outside mobile host in group activity is allowed (See col. 2, lines 25-26).

f. As per claim 16, Johnson et al teaches the claimed invention as described above.

Furthermore, Johnson et al teaches wherein said foreign agent forms a channel by associating an address to each source address found in said request (See col. 5, lines 50-58). However, Johnson et al fails to teach wherein the address is multicast.

Okanoue teaches wherein the mobile node address is a multicast address (See col. 4, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the mobile node address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

g. As per claim 17, Johnson et al in view of Okanoué teaches the claimed invention as described above. Furthermore, Johnson et al teaches the steps of: said mobile node inserting at least one home agent's address in said multicast request (See col. 6, lines 9-12); and said mobile node providing an address of each correspondent that has received a binding update message from said home agent (See col. 7, lines 1-5).

h. As per claim 21, Johnson et al teaches the claimed invention as described above. Furthermore, Johnson teaches wherein said binding update sent by said home agent comprises a care-of address set equal to a home address of said mobile node (See col. 6, lines 57-59).

i. As per claim 22, 29, 31 and 36, Johnson et al teaches the claimed invention as described above. Furthermore, Johnson et al teaches using an address to tunnel said intercepted packets (See col. 5, lines 50-58). However, Johnson et al fails to teach that the address is multicast.

Okanoue teaches wherein the address is a multicast address (See col. 4, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

j. As per claim 24, Johnson et al teaches the claimed invention as described above. Furthermore, Johnson et al teaches wherein home agent inserting an address in said address extension, wherein said address extension is a source specific address extension (See col. 4, lines 58-61). However, Johnson et al fails to teach that the address is multicast.

Okanoue teaches wherein the address is a multicast address (See col. 4, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

k. As per claim 25, Johnson et al in view of Okanoué teaches the claimed invention as described above. Furthermore, Johnson et al teaches wherein said mobile node receiving the registration reply along with said attached address extension; and said mobile node subscribing to a channel (See col. 6, lines 15-24).

l. As per claim 26, Johnson et al in view of Okanoué teaches the claimed invention as described above. Furthermore, Johnson et al teaches forming said channel by associating a home agent address and said address contained in said address extension, wherein said channel is a source specific address channel (See col. 4, lines 58-61). However, Johnson et al fails to teach that the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 4, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

m. As per claim 27, Johnson et al teaches a method of routing data to a mobile, comprising the steps of: appending a network access identifier extension to an advertisement message; sending said advertisement message from a foreign agent to a mobile node (See col. 6, lines 3-4); said mobile node receiving said advertisement message (See col. 6, lines 1-2); sending a registration request from said mobile node to said foreign agent; said foreign agent relaying said registration request to a home agent (See col. 6, lines 12-13); said home agent inserting an address in an address extension; said home agent appending said address extension to a registration reply (See col. 5, lines 52-56); said mobile node receiving said registration reply

along with the attached address extension; said mobile node forming a channel by associating the home agent address and said address contained in the address extension; and said mobile node subscribing to said channel (See col. 4, lines 58-61). However, Johnson et al fails to teach wherein the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

o. As per claim 30, Johnson et al in view of Okanoué teaches the claimed invention as described above. Furthermore, Johnson et al teaches wherein said home agent intercepting packets sent to said mobile node from a correspondent node when said mobile node is visiting a foreign wireless domain (See col. 7, lines 16-18); said home agent tunneling said intercepted packets to said mobile node (See col. 6, lines 18-21); said foreign agent forwarding said packets to said mobile node; and said mobile node detunneling said intercepted packets (See col. 5, lines 60-61).

p. As per claim 48, Johnson et al teaches the claimed invention as described above. Furthermore, Johnson et al teaches wherein said registration reply further comprises an address extension comprising a source specific address (See col. 5, lines 50-55). However, Johnson et al fails to teach wherein the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

q. As per claim 51, Johnson et al in view of Okanoué teaches the claimed invention as described above. Furthermore, Johnson et al teaches wherein at least one tunnel operably

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connected to said correspondent, whereby said correspondent uses an address to tunnel packets (See col. 7, lines 5-11). However, Johnson et al fails to teach wherein the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanou in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,625,135 to Johnson et al in view of U.S. Patent No. 6,567,664 to Bergenwall et al.

a. As per claim 10, Johnson et al teaches the claimed invention as described above. However, Johnson et al fails to teach wherein foreign agent is performing a validity check.

Bergenwall et al teaches a registration for mobile nodes in wireless internet protocols. Furthermore, Bergenwall et al teaches wherein foreign agent is performing a validity check (See col. 7, lines 3-4).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein foreign agent is performing a validity check as taught by Bergenwall et al in the claimed invention of Johnson et al in order to indicate that the mobile node is still roaming on the foreign network (See col. 7, lines 5-6).

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,625,135 to Johnson et al in view of U.S. Patent No. 6,621,810 to Leung.

a. As per claim, Johnson et al teaches the claimed invention as described above. However, Johnson et al fails to teach the step of said mobile node setting a bit, whereby said mobile node requests its home agent to not inform correspondents of a current care-of address.

Leung teaches a mobile IP intra-agent mobility. Furthermore, Leung et al teaches the step of said mobile node setting a bit, whereby said mobile node requests its home agent to not inform correspondents of a current care-of address (See abstract, lines 14-17).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the step of said mobile node setting a bit, whereby said mobile node requests its home agent to not inform correspondents of a current care-of address as taught by Leung in the claimed invention of Johnson et al in order to permit correspondent node to communicate through home agent (See col. 1, lines 55-57).

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 6,625,135 to Johnson et al in view of U.S. Patent No. 6,243,758 to Okanou as applied to claim 5 above, and further in view of U.S. Patent No. 6,621,810 to Leung

a. As per claim 18, Johnson et al in view of Okanou teaches the claimed invention as described above. However, Johnson et al in view of Okanou fails to teach sending a MN-FA authentication from said mobile node to said foreign agent.

Leung teaches a mobile IP intra-agent mobility. Furthermore, Leung teaches sending a MN-FA authentication from said mobile node to said foreign agent (See col. 6, lines 23-25).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate sending a MN-FA authentication from said mobile node to said foreign agent as taught by Leung in the claimed invention of Johnson et al in view of Okanou in order to forward the packets to a home agent associated with the mobile node (See col. 6, lines 31-33).

6. Claims 19-20, 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,625,135 to Johnson et al in view of U.S. Patent No. 6,243,758 to Okanou as applied to claim 6 above, and further in view of U.S. Patent No. 6,578,085 to Khalil et al.

a. AS per claim 19, Johnson et al in view of Okanou teaches the claimed invention as described above. However, Johnson et al in view of Okanou fails to teach wherein said home agent sends said binding update in response to receiving a binding request message.

Khalil et al teaches a system and method for route optimization in a wireless Internet protocol network. Furthermore, Khalil et al teaches wherein said home agent sends said binding update in response to receiving a binding request message (See abstract, lines 10-14).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein said home agent sends said binding update in response to receiving a binding request message as taught by Khalil et al in the claimed invention of Johnson et al in view of Okanoué in order to optimize routing in a wireless network (See Abstract, lines 1-2).

b. As per claim 20, Johnson et al in view of Okanoué teaches the claimed invention as described above. However, Johnson et al in view of Okanoué fails to teach wherein said home agent sends said binding update in response to receiving a binding warning message.

Khalil et al teaches wherein said home agent sends said binding update in response to receiving a binding warning message (See col. 4, lines 49-50).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein said home agent sends said binding update in response to receiving a binding warning message as taught by Khalil et al in the claimed invention of Johnson et al in view of Okanoué in order to optimize routing in a wireless network (See Abstract, lines 1-2).

c. As per claim 53, Johnson et al in view of Okanoué teaches the claimed invention as described above. Furthermore, Johnson et al teaches at least one tunnel operably connected to said correspondent, whereby said correspondent uses an address to tunnel packets, wherein said foreign node further comprises an identifier attached to said advertisement message (See col. 7, lines 5-12), wherein said request is a request if said mobile node is in the same foreign domain but has moved to a new foreign agent, or wherein said request is a registration request if said mobile has entered a new foreign domain, wherein said registration reply further comprises a address extension comprising a source specific multicast address (See col. 6, lines 1-20), wherein said correspondent further comprises a binding request message, whereby said home agent sends said binding update message in response to said correspondent sending said binding request

message (See col. 7, lines 15-22). However, Johnson et al fails to teach wherein the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

However, Johnson et al in view of Okanoué fails to teach wherein said mobile node further comprises a binding warning message, whereby said home agent sends said binding update message in response to said mobile node sending said binding warning message.

Khalil et al teaches wherein said mobile node further comprises a binding warning message, whereby said home agent sends said binding update message in response to said mobile node sending said binding warning message (See col. 4, lines 49-50).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein said mobile node further comprises a binding warning message, whereby said home agent sends said binding update message in response to said mobile node sending said binding warning message as taught by Khalil et al in the claimed invention of Johnson et al in view of Okanoué in order to optimize routing in a wireless network (See Abstract, lines 1-2).

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,625,135 to Johnson et al in view of U.S. Patent No. 6,243,758 to Okanoué as applied to claim 6 above, further in view of U.S. Patent No. 6,578,085 to Khalil et al and further in view of U.S. Patent No. 6,567,664 to Bergenwall.

a. As per claim 28, Johnson et al in view of Okanoué teaches the claimed invention as described above. However, Johnson et al in view of Okanoué fails to teach sending a binding update from a home agent to a correspondent, whereby said correspondent is informed of said multicast address of said mobile node; sending a binding acknowledgement from said correspondent to said home agent; and sending a source update from said home agent to said

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mobile node, whereby said mobile node is informed that said correspondent has received said binding update message with said multicast address, wherein said address extension is a source specific multicast address extension and said channel is a source specific multicast address channel.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

Khalil et al teaches sending a binding update from a home agent to a correspondent, whereby said correspondent is informed of said address of said mobile node; sending a binding acknowledgement from said correspondent to said home agent;

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate sending a binding update from a home agent to a correspondent, whereby said correspondent is informed of said address of said mobile node; sending a binding acknowledgement from said correspondent to said home agent as taught by Khalil et al in the claimed invention of Johnson et al in view of Okanoué in order to optimize routing in a wireless network (See Abstract, lines 1-2).

Bergenwall et al sending a source update from said home agent to said mobile node, whereby said mobile node is informed that said correspondent has received said binding update message with said multicast address, wherein said address extension is a source specific multicast address extension and said channel is a source specific multicast address channel (See col. 2, lines 36-37).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate sending a source update from said home agent to said mobile node, whereby said mobile node is informed that said correspondent has received said binding update message with said multicast address, wherein said address extension is a source specific multicast address extension and said channel is a source specific multicast address channel.

as taught by Bergenwall et al in the claimed invention of Johnson et al in view of Okanou and further in view of Khalil et al in order to maintain communication with the internet and maintain identification of the mobile node by its individual home address (See abstract, lines 4-6).

8. Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,578,085 to Khalil et al in view of U.S. Patent No. 6,243,758 to Okanou and further in view of U.S. Patent No. 6,567,664 to Bergenwall.

a. As per claim 32, Khalil et al teaches a method of updating location in a communication system, comprising the steps of: sending a binding update from a home agent to a correspondent, whereby said correspondent is informed of a address of said mobile node (See col. 2, lines 33-34); sending a binding acknowledgement from said correspondent to said home agent (See col. 2, lines 34-35); However, Kahlil et al fails to teach sending a source update from said home agent to said mobile node, whereby said mobile node is informed that said correspondent has received said binding update with said address .

Bergenwall et al teaches sending a source update from said home agent to said mobile node, whereby said mobile node is informed that said correspondent has received said binding update with said address (See col. 2, lines 36-37).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate sending a source update from said home agent to said mobile node, whereby said mobile node is informed that said correspondent has received said binding update with said address as taught by Bergenwall et al in the claimed invention of Khalil et al in order to maintain communication with the internet and maintain identification of the mobile node by its individual home address (See abstract, lines 4-6).

However, Khalil et al in view of Bergenwall et al fails to teach where the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanou in the

claimed invention of Johnson et al in view of Bergenwall et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

b. As per claim 33, Khalil et al teaches wherein said home agent sends said binding update in response to receiving a binding request message (See abstract, lines 10-14).

c. As per claim 34, Khalil et al teaches wherein said home agent sends said binding update in response to receiving a binding warning message (See col. 4, lines 49-50).

9. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,578,085 to Khalil et al in view of U.S. Patent No. 6,535,493 to Lee et al.

a. As per claim 38, Khalil et al teaches an apparatus to route data to a mobile, comprising: at least one mobile node (See abstract, lines 1-7); and a home agent operably connected to said at least one mobile node, comprising a binding list having at least one entry for said at least one mobile node (See col. 6, lines 42-44). However, Khalil et al fails to teach wherein at least one foreign node operably connected to said at least one mobile node, comprising at least one visitor list.

Lee et al teaches a mobile Internet communication protocol. Furthermore, Lee et al teaches wherein at least one foreign node operably connected to said at least one mobile node, comprising at least one visitor list (See col. 9, lines 32-37).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein at least one foreign node operably connected to said at least one mobile node, comprising at least one visitor list as taught by Lee et al in the claimed invention of Khalil et al in order to disassociates mobile units that do not periodically request registration from its active lists (See col. 3, lines 17-19).

10. Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 6,578,085 to Khalil et al in view of U.S. Patent No. 6,535,493 to Lee et al. as applied to claim 38 above, and further in view of U.S. Patent No. 6,243,758 to Okanou.

a. As per claim 39, Khalil et al in view of Lee et al teaches the claimed invention as described above. Furthermore, Khalil et al teaches wherein entry includes an identification field from a registration reply; and a remaining lifetime of a registration (See col. 4, lines 20-30). However, Khalil et al fails to teach wherein the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

b. As per claim 40, Khalil et al in view of Lee et al teaches the claimed invention as described above. Furthermore, Khalil et al teaches at least one tunnel operably connected to said correspondent, whereby said correspondent uses a address to tunnel said intercepted packets (See col. 4, lines 1-12). However, Khalil et al fails to teach wherein the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

c. As per claim 41, Khalil et al in view of Lee et al teaches the claimed invention as described above. Furthermore, Khalil et al teaches at least one tunnel operably connected to said home agent, whereby said home agent uses a multicast address to tunnel said intercepted packets (See col. 4, lines 1-12). However, Khalil et al fails to teach wherein the address is a multicast address.

Okanoue teaches wherein the address is a multicast address (See col. 6, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the address is a multicast address as taught by Okanoué in the

claimed invention of Johnson et al in order to selectively route multicast packets to home mobile hosts visiting an external network (See col. 1, lines 42-43).

10. Claim 47, 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,578,085 to Khalil et al in view of U.S. Patent No. 6,567,664 to Bergenwall et al.

a. As per claim 47, Khalil et al teaches at least one correspondent having a binding acknowledgement and wherein said home agent further comprises a binding update and a source update, whereby said home agent sends said binding update to said correspondent (See col. 6, lines 59-60), said correspondent sends said binding acknowledgement to said home agent (See col. 6, lines 61-62). However, Khalil fails to teaches wherein said home agent sends said source update to said mobile node.

Bergenwall et al teaches wherein said home agent sends said source update to said mobile node (See col. 2, lines 36-37).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate said home agent sends said source update to said mobile node as taught by Bergenwall et al in the claimed invention of Khalil et al in order to in order to maintain communication with the internet and maintain identification of the mobile node by its individual home address (See abstract, lines 4-6).

b. As per claim 49, Khalil et al in view of Bergenwall et al teaches the claimed invention as described above. Furthermore, Khalil et al teaches wherein said correspondent further comprises a binding request message, whereby said home agent sends said binding update message in response to said correspondent sending said binding request message (See col. 4, lines 49-50).

c. As per claim 50, Khalil et al in view of Bergenwall et al teaches the claimed invention as described above. Furthermore, Khalil et al teaches wherein said mobile node further comprises a binding warning message, whereby said home agent sends said binding update message in response to said mobile node sending said binding warning message (See abstract, lines 10-14).

11. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,578,085 to Khalil et al in view of U.S. Patent No. 6,567,664 to Bergenwall et al as applied to claim 47 above, and further in view of U.S. Patent No. 6,625,135 to Johnson et al.

a. As per claim 52, Khalil et al in view of Bergenwall et al teaches the claimed invention as described above. However, Khalil et al teaches wherein at least one tunnel operably connected to said home agent, whereby said home agent uses a source care-of address to tunnel packets.

Johnson et al teaches wherein at least one tunnel operably connected to said home agent, whereby said home agent uses a source care-of address to tunnel packets (See col. 6, lines 15-18).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein at least one tunnel operably connected to said home agent, whereby said home agent uses a source care-of address to tunnel packets as taught by Johnson et al in the claimed invention of Khalil et al in view of Bergenwall et al in order to route communication signals through the network in a manner that provides the desired or best available predicted quality of communication (See col. 2, lines 60-63).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,600,743 to Lee et al teaches a method of multicasting messages in computing network environment.

U.S. Patent No. 6,477,150 to Maggenti et al teaches a system and method for providing group communication services in an existing communication system.

U.S. Patent No. 6,522,880 to Verma et al teaches a method and apparatus for handoff of a connection between network devices.

U.S. Patent No. 6,549,522 to Flynn teaches a mobile data rate enhanced via foreign agent load balanced.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M Bayard whose telephone number is (703) 305-6606. The examiner can normally be reached on 7:00 AM-4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (703) 305-4003. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Djenane Bayard

Patent Examiner

January 20, 2004


RUPAL DHARIA
SUPERVISORY PATENT EXAMINER